

NOTES ON THE OCCURRENCE OF *EPIPYROPS BARBERIANA* IN SOUTHERN ILLINOIS (LEPIDOPTERA: EPIPYROPIDAE)

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ABSTRACT

Epipyrops barberiana Dyar, a parasite of planthoppers, is reported from southern Illinois together with notes on host species.

Larvae of the moth family Epipyropidae are parasitic on planthoppers (Homoptera: Fulgoroidea), apparently feeding on the dorsal surface of the abdomen (Borror et al. 1976); an Asian epipyropid, *Epipyrops anomala* Westwood, has been reported to feed on the blood of the fulgoroid *Laternaria candalaria* (Linnaeus) (Marshall 1970). *Epipyrops barberiana* Dyar is the only epipyropid which occurs in North America (Davis, pers. comm.) and is associated with issid, acanaloniid, and flatid planthoppers (Perkins 1907). It has been reported from New Mexico on *Hysteropterum aureum* (Uhler) (Issidae) (Dyar 1902a), from Texas on *Metcalfa pruinosa* (Say) (Flatidae) (Holland 1904), and from Arizona (no host given) (Dyar 1902b); it is here reported from southern Illinois.

It is not known whether *E. barberiana* actually feeds on its host and, if so, whether its feeding is detrimental (Dyar 1903). Holland (1904) noted that the host specimens which he observed (i.e., *M. pruinosa*) died after the moth larvae left.

For the past three years, we have been conducting studies on the bionomics of selected southern Illinois fulgoroids, including laboratory rearing. During the course of the laboratory studies, four field-collected fulgoroids (two specimens of *Acanalonia conica* [Say] [Acanaloniidae], one each of *Thionia bullata* [Say] [Issidae] and *Metcalfa pruinosa*) were found to be parasitized by epipyropid larvae (Table 1). The hosts were either placed in petri dishes (9 cm diam, 2 cm depth), or 1-qt mason jars closed with wire screen and paper toweling and secured with the band of the two-piece mason jar lid; the bottoms of both the petri dishes and mason jars were covered with filter paper which, in the dishes, was moistened every 2-3 days. Green snap beans (*Phaseolus vulgaris* [L.]) were used as the food source. The dishes and jars were kept in an incubator under a 16L:8D photoperiod at 23 ± 1.1°C.

From 3 to 6 days after capture the moth larvae left their hosts and attached themselves to the walls of the petri dish, mason jar, or to the bean, and pupated. One specimen was preserved as a larva (preserved in KAAD for 24 h and then transferred to 95% ethyl alcohol), the other three were reared to adult. Adult moths emerged 16, 11, and 10 days after leaving their hosts, an *A. conica* male, a *T. bullata* female, and a *M. pruinosa* female, respectively.

Three of the hosts, an *A. conica* nymph, a *T. bullata* female and a *M. pruinosa* female died 10, 4, and 4 days, respectively, after the moths left them. However, the *A. conica* male lived for 61 days after its parasite left, and was able to mate with a laboratory-reared *A. conica* female which subsequently laid several clusters of eggs. Thus, it appears that *E. barberiana* may not always be detrimental to its host.

Two additional *E. barberiana* larvae, and their hosts, were found in collections housed at Southern Illinois University, Carbondale (SIU-C) and Illinois State University (ISU), Normal (Table 1). All hosts and parasites, except for the ISU specimens, are deposited in the SIU-C insect collection, Zoology Research Museum.

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Table 1. List of hosts of *Epipyrops barberiana* found in southern Illinois.

Host		Collection			
Family	Species	Stage When Collected	Sex	Date	Site ^a
Present Study					
Acanaloniidae	<i>Acanalonia conica</i>	Adult	Male	24 July 1978	SIU
	<i>A. conica</i>	5th instar	—	8 Aug. 1978	SIU
Flatidae	<i>Metcalfa pruinosa</i>	Adult	Female	29 July 1977	PH
Issidae	<i>Thionia bullata</i>	Adult	Female	26 Aug. 1977	PH
Museum Collections					
	<i>T. bullata</i> ^b	Adult	Female	5 Sept. 1967	GC
	<i>T. elliptica</i> ^c	Adult	Female	26 July 1974	PH

^aSIU = Southern Illinois University campus, Carbondale, Jackson Co., Illinois; PH = LaRue-Pine Hills Ecological Area, Union Co., Illinois; GC = Giant City State Park, Jackson Co., Illinois.

^bcollected by E. L. Mockford and deposited in the Illinois State University Insect Collection.

^ccollected by P. L. Nixon and deposited in the SIU-C insect collection, Zoology Research Museum.

ACKNOWLEDGMENTS

We would like to thank the following individuals: Drs. D. R. Davis and D. M. Weisman, Department of Entomology, U. S. National Museum, Washington, D. C. for providing distributional information on *E. barberiana*, and for identifying the larvae, respectively; and E. L. Mockford, Illinois State University, Normal, for allowing us to examine the Illinois State fulgoroid collection.

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